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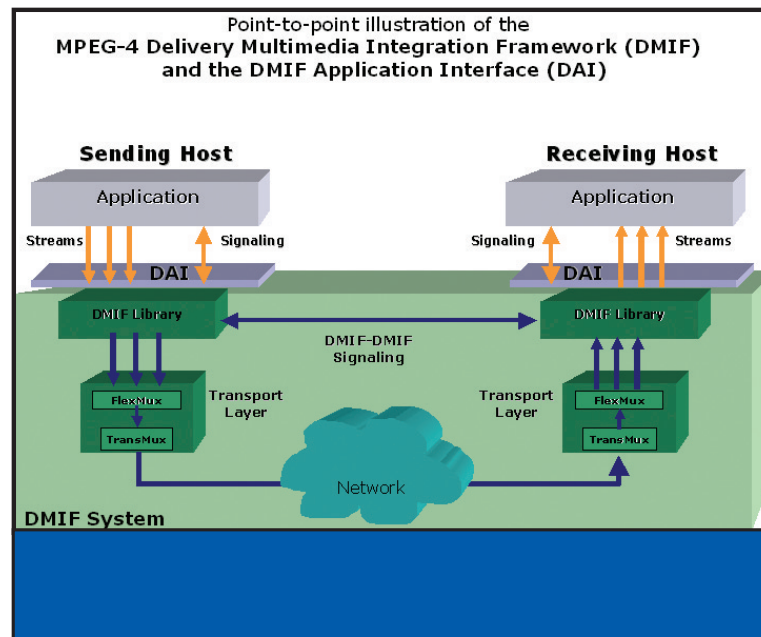*Science and Technology for Tomorrow's Aerospace Forces*

Success Story

AFRL INSTALLS MPEG-4 DELIVERY MULTIMEDIA INTEGRATION FRAMEWORK

Software programmers developing multimedia applications that rely on network transport can now use the Moving Picture Experts Group (MPEG)-4 Delivery Multimedia Integration Framework (DMIF) application interface to handle sessions and multiple channels within those sessions. They can also use DMIF to send and receive audio, video, and data with varying quality of service requirements over the channels.

The transport-independent delivery services provided to the application by the DMIF system insulates the applications from network-specific details. This will provide new or modified applications with alternative transport technologies meeting the quality of service demands of interactive multimedia content and will extend their life cycles in spite of the continuing evolution of commercial and military networking technologies.

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Accomplishment

Through a Cooperative Research and Development Agreement (CRADA) with Xbind, Inc., the Information Directorate's Distributed Information Systems Branch installed the MPEG-4 DMIF system. The test bed provides an experimental platform for the development of multimedia applications using the DMIF application interface. The DMIF system currently provides transport services with varying quality of service requirements to multimedia applications over Internet Protocol and Asynchronous Transfer Mode (ATM) infrastructures.

Background

In 1995, the directorate initiated a research effort with Columbia University entitled ATM Management and Control Application Programming Interfaces (APIs). Columbia University researchers applied distributed object-computing technology to the network control software and provided generic APIs through which multimedia applications could dynamically influence the network state in a controlled manner.

Common Object Request Broker Architecture middleware applied a level of abstraction between the distributed computing applications and the network systems in such a way that the applications could request generic services without requiring specific knowledge of the underlying network technology. After successfully demonstrating the concepts, Columbia University's principal investigator established Xbind, Inc. to develop prototypes into commercial products. The CRADA allows the directorate to evaluate Xbind's products against military requirements and keep abreast of the technology.

Information
Technology Transfer

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTT, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (01-IF-05)